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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/871,119 | 05/31/2001 | Bruce S. Davie | 112025-0481 | 9828 |
| 24267 7590 12/22/2006 CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210 | | | EXAMINER HOSSAIN, TANIM M | |
| | | | ART UNIT 2145 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 09/871,119 | | DAVIE, ET AL | |
| | Examiner | | Art Unit | |
| | Tanim Hossain | | 2145 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 5, 6, 8, 9, 40, 41, 43, 44, 47-50, 52 and 53 is/are allowed.
- 6) ☒ Claim(s) 10, 11, 13, 15-18, 19-27, 51, and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

Claims 1, 5, 6, 8, 9, 40, 41, 43, 44, 47-50, 52, and 53 are allowed.

The following is an examiner's statement of reasons for allowance: The amended claims feature a network device having a traffic scheduler that forwards network traffic received at the device, a classification engine that identifies the network traffic based on some criteria, and a resource reservation engine coupled to the traffic scheduler and classification engine. The reservation engine, in response to a request from a destination entity, allocates resources for the traffic dedicated to the request, but does not make the resources available to the traffic until the reservation engine receives a second request to reserve resources from the destination entity. This second request indicates that the destination entity accepts the traffic flow. Because the release of the resources requires two reservation messages (one for allocation of the resources, and another for making them available) from the destination entity, it is believed that the claimed invention is novel. The examiner was unable to procure prior teachings of such features as claimed by the amended claims and could not render said features obvious to one of ordinary skill in the art without the use of impermissible hindsight constructions. Additionally, Applicant's remarks regarding the claim amendments and the provided prior art references' deficiencies are persuasive in that none of the references, taken singly, or in combination teach the newly claimed features. It is therefore the examiner's belief that the claimed invention does indeed possess novelty.

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee, and to avoid processing delays, should preferably accompany the issue fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11, 13, 15-18, 51, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah (U.S. 6,449,251) in view of Kano (U.S. 6,453,349).

As per claim 10, Awadallah teaches that in a computer network having a plurality of intermediate network devices having one or more resources for use in forwarding network traffic, a method for providing end-to-end resource reservations along a route between two or more entities, the method comprising the steps of: receiving a first resource reservation message at a given intermediate network device disposed along the network route, the first resource reservation message identifying a traffic flow between the two or more entities requesting a reservation of resources (Awadallah: column 5, lines 25-52; where in response to a request, the ports and resources are allocated); in response to receiving the first resource reservation message, allocating one or more of the device's resources for use in forwarding network traffic between

the two or more entities (Awadallah: column 5, lines 53-56). Awadallah does not specifically teach withholding the allocated resources from being applied to the traffic flow between the two or more entities until the plurality of intermediate network devices receive a message identifying the traffic flow indicating that one of the two or more entities accepts the traffic flow. Kano teaches that allocation takes place, but processing does not begin until after receiving a second message from a destination entity, which indicates that the destination entity accepts the communication (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; where the processing does not take place, until the destination entity sends a message). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teaching of an acknowledgement message before resources are made available to the source and destination entities to a traffic scheduling system, as taught by Kano in the system of Awadallah. The motivation for doing so lies in the fact that having a specific acknowledgement would further prevent the misallocation of resources, which would significantly reduce bottlenecks in the system. This also is the basis of RSVP. All inventions are from the same field of endeavor, namely the reservation of resources and network communications.

As per claim 11, Awadallah-Kano further teaches that in response to receiving the second resource reservation message, making the allocated resources available for use in forwarding the traffic flow between the two or more entities (Awadallah: column 5, lines 25-52; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60).

As per claim 13, Awadallah-Kano teaches the method of claim 11, but does not specifically teach that the messages are modified RSVP messages. It would have been obvious to one of ordinary skill in the art to teach that the reservation messages are RSVP messages, as

the protocol is well known in the art, and would allow for implementation of the RSVP standard, adding efficiency to the invention.

As per claim 15, Awadallah-Kano further teaches that the steps of allocating resources, withholding resources, and making allocated resources available are performed at each intermediate network device disposed along the route between the two or more entities (Awadallah: column 5, lines 25-52; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60).

As per claim 16, Awadallah-Kano teaches a method for providing resource reservations along a route through a computer network between two or more entities, the method comprising the steps of: generating a first resource reservation message by a destination entity identifying a traffic flow and requesting a reservation of resources (Awadallah: column 5, lines 25-52; Kano: Abstract); configuring the first resource message to include a two phase reservation flag, and asserting the two phase reservation flag so that resources within the network will be allocated, but not made available to the identified traffic flow until the destination entity accepts the traffic flow (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; column 5, lines 54-55; column 7, line 66 – column 8, line 9).

As per claim 17, Awadallah-Kano teach the method of claim 16 on the basis of obviousness, further comprising the steps of generating a second resource reservation message by the destination entity identifying the traffic flow (Awadallah: column 5, lines 25-52; Kano: Abstract); configuring the first resource message to include a two phase reservation flag, and de-asserting the two phase reservation flag so that the allocated resources are made available for

application to the identified traffic flow (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60).

As per claim 18, Awadallah-Kano teaches the network device of claim 1, further comprising: a timer to measure a predetermined time period, wherein the resource reservation engine discards the resources if the second reservation message is not received prior to expiration of the predetermined time period (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60).

As per claim 51, Awadallah-Kano further teaches that the traffic flow is a VoIP call to the destination entity (Awadallah: column 5, lines 25-52).

As per claim 54, Awadallah-Kano further teaches that the first and second requests to reserve resources originate from the destination entity (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60).

Claims 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah (U.S. 6,449,251) in view of Cisco Systems Incorporated (VoIP Call Admission Control Using RSVP), in further view of Jappila (RSVP – Nokia Telecommunications).

As per claim 19, Awadallah-Cisco teaches a router with means of identifying traffic flow requesting a reservation of resources (Cisco: page 1, lines 15-22, Awadallah: column 3, line 61 – column 4, line 11; column 7, lines 7-10, 38-45); allocating resources between two or more entities, but not making use of the them (Cisco: page 1, lines 15-22, Awadallah: column 3, line 61 – column 4, line 11; column 7, lines 7-10, 38-45); and means for making available the resources in response to a second resource reservation request (Cisco: page 1, lines 15-22,

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Awadallah: column 3, line 61 – column 4, line 11; column 7, lines 7-10, 38-45). The motivation to combine Awadallah-Cisco has been discussed previously. Awadallah-Cisco does not specifically teach the use of messages to achieve this end. Jappila teaches the use of Resv and other RSVP messages (page 2) for use in allocating resources. It would have obvious to one of ordinary skill in the art at the time of the invention to include the use of messages to achieve resource allocation as taught by Jappila in the system of Awadallah-Cisco. The motivation for doing so lies in the fact that using messages would provide a good indicator of which routers need resources reserved. All inventions are of the same field of endeavor, namely the efficient time-sensitive communication through a network.

Claim 20 is rejected under Awadallah-Cisco-Jappila on the same basis as claim 19, as claim 20 discloses limitations similar to those of claim 19.

As per claim 21, Awadallah-Cisco-Jappila teaches a method for operating a router, comprising: generating a first resource reservation message identifying a traffic flow for which a resource reservation is requested along a network path between two entities; (Jappila: page 2); and indicating by the first resource reservation message that resources within the network are requested to be allocated, but not made available to the identified traffic flow (Cisco: page 1, lines 15-22).

As per claim 22, Awadallah-Cisco-Jappila teaches the method of claim 21, further comprising: generating a second resource reservation message identifying the traffic flow; and indicating by the second resource reservation message that the allocated resources are to be made available for application to the identified traffic flow (Cisco: page 1, lines 15-22; Jappila: page 2).

As per claim 23, Awadallah-Cisco-Jappila teaches the method of claim 22, further comprising: discarding the resources upon expiration of a predetermined time period, if the second reservation message is not received prior to expiration of the predetermined time period (Cisco: page 2, lines 1-3).

As per claim 24, Awadallah-Cisco-Jappila teaches a router comprising: means for generating a first resource reservation message identifying a traffic flow for which a resource reservation is requested along a network path between two entities (Jappila: page 2); and means for indicating the first resource reservation message that resources within the network are requested to be allocated, but not made available to the identified traffic flow (Cisco: page 1, lines 15-22).

As per claim 25, Awadallah-Cisco-Jappila teaches the router of claim 24 further comprising: means for generating a second resource reservation message identifying the traffic flow (Jappila: page 2); and means for indicating by the second resource reservation message that the allocated resources are to be made available for application to the identified traffic flow (Cisco: page 1, lines 15-22; Jappila: page 2).

As per claim 26, Awadallah-Cisco-Jappila teaches the router of claim 25, further comprising: means for discarding the resources upon expiration of a predetermined time period, if the second reservation message is not received prior to expiration of the predetermined time period (Cisco: page 2, lines 1-3).

As per claim 27, Awadallah-Cisco-Jappila teaches a computer readable media, comprising: the computer readable media having information written thereon, the information having instructions for execution on a processor for the practice of a method for providing

resource reservations along a route between two or more entities, the method having the steps of generating a first resource reservation message identifying a traffic flow to request a reservation of resources in a network between two or more entities (Jappila: page 2); and indicating by the first resource reservation message identifying a traffic flow to request a reservation of resources in a network between two or more entities (Jappila: page 2); and indicating by the first resource reservation message that resources within the network will be allocated, but not made available to the identified traffic flow (Cisco: page 1, lines 15-22).

Response to Arguments

Applicant's arguments filed on October 2, 2006 have fully been considered.

- a. Claims 1, 5, 6, 8, 9, 40, 41, 43, 44, 47-50, 52, and 53 are allowed.
- b. The remaining claims are rejected on the bases set forth above. In regards to claim 10, the claim language only discloses the sending of two reservation messages before the resources are made available, which simply constitutes the basis of the RSVP protocol combined with Awadallah, as discussed previously. Claim 19 similarly teaches the reception of two messages before the allocated resources are made available to the traffic flow, and also constitutes the basis of RSVP combined with Awadallah. There is no discussion from where the reservation messages originate, which make the limitations patentably distinct in view of Awadallah-Cisco-Jappila, and the RSVP protocol.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 571/272-3881. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571/272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tanim Hossain
Patent Examiner
Art Unit 2145


JASON CARDONE
SUPERVISORY PATENT EXAMINER